

must be attributed many of the strange and misapplied names of animals and organs which occur throughout the pages of this book, which, indeed, does not seem to us to have been worthy even of this indifferent translation.

W. P. P.

PROCEEDINGS OF LEARNED SOCIETIES.

GEOLOGICAL SOCIETY.

February 7th, 1906.—J. E. Marr, Sc.D., F.R.S.,  
President, in the Chair.

The following communication was read:—

'The Carboniferous Limestone (Avonian) of the Mendip Area (Somerset), with especial reference to the Palæontological Sequence.'  
By Thomas Franklin Sibly, B.Sc., F.G.S.

The Avonian rocks are exposed in four main anticlinal forms or periclinal lines—those of Black Down, North Hill, Pen Hill, and Beacon Hill; each of which has an approximately east-and-west trend and has Old Red Sandstone exposed in its core. The following is the zonal succession:—

	Zones.	Subzones & Horizons.	Feet.
KIDWELLIAN.	{ <i>Dibunophyllum</i> .....	{ D <sub>2</sub> . <i>Lonsdalia floriformis</i> . D <sub>1</sub> . <i>Dibunophyllum</i> θ. }	500
	{ <i>Seminula</i> .....	{ S <sub>2</sub> . <i>Productus</i> aff. <i>Cora</i> mut. S <sub>2</sub> . S <sub>1</sub> . <i>P. cf. semircticulatus</i> mut. S <sub>1</sub> . }	720
CLEVEDONIAN.	{ <i>Syringothyris</i> .....	C. <i>S. cuspidata</i> .	550
	{ <i>Zaphrentis</i> .....	{ Z <sub>2</sub> . <i>Z. aff. cornucopiæ</i> . Z <sub>1</sub> . <i>Spirifer</i> aff. <i>clathratus</i> . }	800
	{ <i>Cleistopora</i> .....	{ K <sub>2</sub> . <i>Spiriferina</i> cf. <i>octoplicata</i> . K <sub>1</sub> . <i>Productus bassus</i> . M. ( <i>Modiola</i> -phase.) }	450

In the present paper, the faunal sequence is discussed in detail, attention being confined almost entirely to the corals and brachiopods, which predominate throughout the series. The lithological character of each zone and subzone is treated briefly. The general

stratigraphy of the area is briefly discussed, reference being made to the more important forms. Following this, the exposures examined are classified in zonal order, and tabulated under the zonal headings. The best exposures of each zone receive special attention.

A correlation with the Bristol area brings out the following more important points. The faunal succession is essentially similar in the two areas; and in both there is good ground for a twofold division into Clevedonian and Kidwellian stages, the line of separation being drawn at the top of the *Syringothyris*-Zone. The Mendip area exhibits, however: (1) a great expansion in the thickness of the *Zaphrentis*- and *Syringothyris*-Zones; (2) a continuously-fossiliferous sequence from the top of the *Zaphrentis*-Zone to the base of the *Seminula*-Zone, possessing a characteristic coral- and brachiopod-fauna; and (3) a relative acceleration of the coral-fauna on the brachiopod-fauna, exhibited in the *Zaphrentis*-Zone.

The paper contains a detailed account of the Ebbor-Rocks District, near Wells, and concludes with notes on certain corals and brachiopods included in the faunal lists, together with descriptions of some new species and mutations.

March 7th, 1906.—Sir Archibald Geikie, D.C.L., Sc.D., Sec.R.S.,  
President, in the Chair.

The following communication was read:—

‘Liassic Dentaliidae.’ By Linsdall Richardson, F.G.S.

Among the fossils collected in the cuttings on the new Honeybourne & Cheltenham Railway were many belonging to the family Dentaliidae; and as the majority are new, the Author has investigated the Liassic members of the family contained in his own collections and in those of numerous museums. The growth of the scaphopod-shell is effected by additions at the anterior end, while the posterior end suffers by wear and absorption. The members of this class are essentially marine, inhabiting deep water, and feeding principally on foraminifera. The word *Dentalium* is used in the broad sense, and not in the restricted sense of a shell with strong longitudinal costæ. Eight new species are described, and eight species already known are discussed.

March 21st, 1906.—Aubrey Strahan, M.A., F.R.S., Vice-President,  
in the Chair.

The following communication was read:—

‘Brachiopod Homœomorphy: *Pygope*, *Antiuomia*, *Pygites*.’  
By S. S. Buckinan, F.G.S.

This paper deals with the diphyoid Terebratulæ, of which so many species have borne the name *Terebratula diphyæ* (Colonna).

It is pointed out that this name is pre-Linnean, and can only date from the time when it was revived by L. von Buch in 1834. Prior to that several names had been given to these shells. The first were *Terebratula cor* and *T. pileus* given by Bruguière in 1792 in the 'Journal d'Histoire Naturelle,' his paper in which has been entirely overlooked by workers on these shells. Bruguière's names indicate a perforate and an imperforate species respectively. Consideration is then given to the synonymy of certain diphyoid species:—*T. triangulus*, Valenciennes, in Lamarek, which was actually founded on Bruguière's own figures of his *T. pileus*; *T. triquetra*, Parkinson, which includes two species, a perforate and an imperforate; and *T. antinomia*, Catullo, which covers various species. These and others all antedate *T. diphya*, L. von Buch.

It is pointed out that *Terebratula diphya* is not the type of the genus *Pygope*, as all text-books say; for Link, the author of the generic name, referred only to *T. antinomia*, Catullo. Reasons are given for taking as the type of *Pygope* one of the forms of *T. antinomia* which is considered to be the same species as *T. deltoidea*, Val. Then the later generic name *Antinomia*, Catullo, is discussed. The genus was founded on five species; and one of them is now selected as the type—the genolectotype. This is *A. dilatata*, Catullo, supposed to be equivalent to *Terebratula antinomia*, Catullo, that is, to what is now selected to be the type of that species. In that case the species would bear the name *Antinomia antinomia* (Cat.). The two generic names *Pygope* and *Antinomia* are employed, because they are supposed to indicate two independent parallel genetic series, whose members differ in size and position of the perforation, and in characters of the lateral margin. But there is yet another series of diphyoids, typified by *Terebratula diphyoides*, d'Orb. It is pointed out that, although the species covered by the name *diphyoides* are very like *Pygope* as now used, yet they all differ in having particular characters in the preperforate stage—a dorsal ridge and a ventral sulcus. For this series de Haan's MS. name *Pygites* is used; and it is supposed that there are three genetic series of diphyoids which have developed independently, and that the remarkable perforate form, with its two lobes joined, has been evolved three times over. A genetic plate is given, figuring for comparison many of the species in the three series, showing their development from the glossothyridoid, to the bifidate, to the perforate (ordinary *T. diphya*) stage; and that then they finish by losing all trace of the perforation, the lobes completely coalescing (the imperforate stage), represented by *Terebratula pileus*, Brug. = *T. triangulus*, Val. in Lamarek.

Synonymies and short notices of the species in the three genera have been given. In compiling them there have been found two papers overlooked by Brachiopod bibliographers—one by E. Newman in the 'Zoologist' naming *T. Duvallii*, and one by Catullo.

April 4th, 1906.—R. S. Herries, M.A., Vice-President,  
in the Chair.

The following communication was read:—

'The Carboniferous Succession below the Coal-Measures in North Shropshire, Denbighshire, and Flintshire.' By Wheelton Hind, M.D., B.S., F.R.C.S., F.G.S., and John T. Stobbs, F.G.S.

This paper opens with a critical account of previous research among the Carboniferous rocks of North Wales, chiefly the work of the late G. H. Morton, Mr. R. Kidston, and Mr. A. Strahan. There follows a detailed account of the various beds, exposed in numerous quarries worked for road-metal, iron-manufacture, lime, cement, chert, or building-stone. Fossil-lists are given from each exposure of importance. The lower series of the Carboniferous Limestone, as developed in the Bristol area, was never deposited in this district, where the lowest beds contain fossils characteristic of a comparatively-late phase of the Carboniferous-Limestone Period. Whether this was due to irregular configuration of the ocean-floor of that age, or to contemporaneous earth-movement of a regional character, cannot as yet be determined. The base of the Limestone is characterized by *Daviesiella (Productus) llanogollensis*, and appears to correspond with the junction of the Upper *Seminula*- and Lower *Dibunophyllum*-Beds of the Bristol area. The next limestones in ascending succession are characterized by the presence of *Dibunophyllum*  $\phi$  and *Cyathophyllum Murchisoni*, fossils which indicate, in the Bristol area, the life-zone which immediately underlies the *Lonsdalia*-Beds. These two life-zones have been named by Dr. Vaughan the Lower and Upper *Dibunophyllum*-Zones respectively. The *Cyathaxonia*-Beds and the cherts are equivalent to a zone higher than the Upper *Dibunophyllum*-Zone of Bristol, and not represented there. The black limestones (containing *Posidonomya Becheri*) with shales, at Teilia, Holywell, and near Bagillt, which occur above the cherts, are the homotaxial equivalents of the Pendleside Series. These beds are followed by the Gwespyr Sandstone, which is correlated with the Millstone Grit. A range-table is given of the chief brachiopods and corals, and the palæontological sequence is compared with that occurring at Bristol and in the North of England. A few notes on the palæontology conclude the paper, and Dr. R. H. Traquair appends a short description of a new species of *Etonichthys*, occurring in the Holywell Shales.

#### MISCELLANEOUS.

*On the Anatomy and Histology of the Ixodidæ.*

By A. BONNET.

This note is concerned with the study of the eye and of the poison-glands of the Ixodidæ, as well as with that of certain